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Fibromyalgia and the Rorschach Inkblot Test

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Abstract

Fibromyalgia Syndrome (FMS) is a widespread chronic pain condition of unknown etiology that has been associated with psychological and cognitive disturbances in addition to physical distress and debilitation. An exploratory study compared the Rorschach responses of individuals with FMS to normative data. Sample mean scores, ratios, and percentages were examined and compared to normative Rorschach data to identify any significant deviances and atypical characteristics. Results indicated that the fibromyalgia group deviated from the norm on individual variables associated with depression, coping, affect regulation, perception, and mediation. In addition, some similarities between sample scores and Rorschach features associated with alexithymia were observed.

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FIBROMYALGIA AND THE RORSCHACH INKBLOT TEST

A DISSERTATION SUBMITTED TO THE FACULTY

OF

SCHOOL OF PROFESSIONAL PSYCHOLOGY

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ABSTRACT

Fibromyalgia Syndrome (FMS) is a widespread chronic pain condition of unknown etiology that has been associated with psychological and cognitive disturbances in addition to physical distress and debilitation. An exploratory study compared the Rorschach responses of individuals with FMS to normative data. Sample mean scores, ratios, and percentages were examined and compared to normative Rorschach data to identify any significant deviances and atypical characteristics. Results indicated that the fibromyalgia group deviated from the norm on individual variables associated with depression, coping, affect regulation, perception, and mediation. In addition, some similarities between sample scores and Rorschach features associated with alexithymia were observed.

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INTRODUCTION

Fibromyalgia Syndrome: Incidence, Prevalence, and Diagnosis

Chronic pain affects millions of Americans. Unknown etiologies are subsumed under the umbrella of pain disorders. Fibromyalgia Syndrome (FMS) is one of the most baffling and misunderstood such disorder, despite afflicting six million of sufferers in the United States alone (Schultz, Hernandez & Hernandez, 2004). Characterized by chronic, widespread, diffuse muscle pain, fatigue, sleep disturbance, mood problems, and physical disability, the “unobservable” pathology of FMS has aroused skepticism in many practitioners despite the syndrome's prevalence. Diagnosed in 2-3% of Americans and 5-6% of primary care patients, FMS is not only prevalent but expensive (Wolfe, Ross, Anderson, Russell, & Hebert, 1995). The cost of living with fibromyalgia significantly affects patients as well as their families, employers, and providers. In 1990, it was estimated that fibromyalgia patients visited an outpatient clinic about ten times a year, were hospitalized once in three years, and spent \$2000 in overall annual costs – an amount that only appears to be rising (Wolfe et al., 1990). In 2003, Robinson et al. listed that yearly cost at \$6000 for the fibromyalgia patient, a cost \$3500 above that of the typical patient. Further, the authors identified additional direct and indirect costs for employers of fibromyalgia patients as being between \$57 and \$143 for every dollar directly spent on fibromyalgia specific claims. This suggests that FMS patients seek medical care frequently, spend a significant sum on treatment, and subsequently cost their employers due to absences and disability.

It wasn't until 1990 that the American College of Rheumatology established the diagnostic criteria for FMS (Wolfe et al., 1990). The criteria include at least three months of pain in anterior and posterior regions of the body (both above and below the waist) as well as pain in 11 of 18 discrete tender points in soft tissue sites when pressure is applied. Generally, patients with fibromyalgia report more intense pain at these tender points and are able to tell the difference between pain at a tender point and elsewhere on the body (Schultz et al., 2004). Though most fibromyalgia sufferers are diagnosed long before old-age, 8% of adults over the age of 80 meet these criteria (Wolfe, Russell, Vipraio, Ross, & Anderson, 1997).

With only a few criteria to guide physicians, diagnosing FMS involves a lengthy process of elimination, determining everything a patient is *not* suffering from and ultimately settling upon FMS when it appears to be the only explanation left. There has been some question about whether fibromyalgia should even be treated as an entity in its own right rather than as individual experiences of pain, primarily because intensity and extent of pain and tender points differ significantly between sufferers (Croft, Schollum & Silman, 1994). With such ambiguous criteria and variation among individuals, assessment and treatment can appear presumptuous and invalidating to some fibromyalgia patients. Further, the process as a whole can be very disconcerting for both sufferers and their families.

FMS affects individuals on many levels. The syndrome “consists of a pervasive set of unexplained physical symptoms with generalized pain and hypersensitivity to palpation at specific body locations as the cardinal features” (Turk & Sherman, 2002, p. 390). In addition to the physical pain and frustration that results from the uncertainty of FMS and the lack of knowledge in regard to etiology, patients must also deal with the

skepticism of others due to the fact that they look well despite their symptoms. “Beyond the pain and related symptoms, FMS sufferers are confronted with a poorly understood disorder that is not well accepted by health care providers, employers, or the legal system” (Turk & Sherman, 2002, p. 390). The potential challenges for these patients extend far beyond the ambiguity and criteria required for diagnosis. Baumstark and Buckelew (1992) identified a myriad of functional limitations and psychological dysfunction reported by FMS patients, which include distress related to persistent fatigue, sleep disturbance, stiffness, headache, bowel dysfunction, depression, anxiety, cognitive impairment, and general malaise.

Traditionally, fibromyalgia patients have been viewed as a homogeneous group under the assumption that every patient with the diagnoses presents with the same experience. Yet, inconsistent results from treatments employed with individuals with fibromyalgia illustrate the fact that these patients are heterogeneous, differing from each other in symptom constellation, improvement, and experience. FMS has moved through various stages of understanding and conceptualization by the medical and psychological community. Numerous studies in seemingly desperate search of clues regarding etiology and effective treatments have proliferated in the last several years with some researchers stumbling upon interesting and tantalizing correlations whereas others uncover little.

REVIEW OF LITERATURE ON FIBROMYALGIA SYNDROME AND RELEVANT PSYCHOLOGICAL ASSESSMENT

Characteristics of Individuals with Fibromyalgia

Personality and DSM diagnoses

Theories regarding the etiology of fibromyalgia (FM) have run the gamut from purely psychological to purely medical theories of causation. It has been suggested as a manifestation of such historic psychiatric disturbances as hysteria (Ford, 1997), and neuroticism (Netter & Hennig, 1998). Though some individuals in the medical community maintain such beliefs regarding the syndrome, most research conducted in the last few years has tended toward a more biopsychosocial and humanistic view of fibromyalgia sufferers, warning against the maintenance of a rigid, psychosomatic view of FM or focusing too narrowly on the influence of psychological and/or physical stress (Cleare, 2004). However, findings still suggest that FM patients differ from their healthy counterparts in personality and mood. Recent research has yielded interesting correlations regarding these factors, even if not entirely conclusive or liberating for either clinicians or patients.

With regard to prevalence of co-morbid psychiatric diagnosis, researches have discovered differences in FM groups when compared to healthy controls or other pain groups. Nordahl and Stiles (2007) explored personality styles and depression in fibromyalgia patients compared to healthy controls and patients with major depressive disorder (MDD). Results indicated that FM patients as a whole display a “sociotropic”

personality, as measured by the Dysfunctional Attitudes Scale (assessing cognitions that predispose individuals to depression) and the Sociotropy-Autonomy Scale (assessing cognitive personality traits of sociotropy and autonomy). Specifically, sociotropy refers to trait-like dependence; a consistent, exacerbated need for love, approval, and acceptance from others (Nordahl & Stiles, 2007). Both MDD and FM groups displayed higher sociotropic scores than healthy controls. However, when lifetime MDD was controlled for in all groups, FM patients displayed similar cognitive personalities (lower sociotropic score) to healthy controls and different from MDD patients. This suggests that a personality style characterized by dependence, approval seeking, and maladaptive cognitions that predispose for depression are more directly related to MDD than FM. However, many FM patients may present a personality style similar to that displayed by MDD patients due to high co-morbidity of the two diagnoses. The investigators assert that depression is more likely secondary to the syndrome rather than an etiologic factor but findings by Alfici, Sigal, Landau (1989) as well as Hudson, Hudson, Pliner, Goldenberg, & Pope (1985) also suggest a link between fibromyalgia and depression. Further, both sets of investigators assert that their results (FM patients are more likely than arthritis patients to have a history of depression), support the conceptualization of FM as a variant of the mood disorder. Specifically, Hudson et al. (1985) identified major depression as preceding FM symptom onset in 64% of cases studied. Further, the investigators discovered a higher lifetime prevalence (26%) of anxiety disorders in FM patients when compared to rheumatoid arthritis (RA) patients (0%). Anxiety disorders identified in the FM group included agoraphobia, panic disorder, and obsessive-compulsive disorder, with combined diagnoses of agoraphobia and panic making up 23% of all anxiety disorders presented by the group. When first-degree relatives were assessed

for mood disturbance, a family history of major affective disorder was found in 47% of FMS patients (compared to 54% of MDD patients and 17% of RA patients). These findings suggest that individuals who develop symptoms of FM have family histories more similar to those with psychiatric issues than those struggling with just organic pain conditions. In a similar study, Kirmayer et al. (1988) found that 20% of their FMS sample had a lifetime history of major depression in comparison to 9% of the group with RA. Additionally, they found that 50% of the FM group, as compared to 22% of the RA group, reported having had a major depressive episode (of 2 week duration) from time of initial assessment to 1 year follow-up. Kirmayer's results were not statistically significant, but overall, the literature suggests a link between depression and FM.

Ahles et al. (1991) conducted an investigation focused on controlling for potential assessor bias in response to physical appearance of subjects in hopes of clarifying contradicting results from previous research. When such conditions were in place, results again yielded no significant differences between groups of FM, RA, and pain free subjects with regard to major depression over lifetime (43%, 39%, 26%), somatization disorder (14%, 6%, 0%), and combined frequency of panic disorder and obsessive-compulsive disorder (20%, 9%, 3%). In contrast, Krag, Norregaard, Larsen, & Danneskiold-Samsoe (1994) examined levels of melancholia, atypical depression, and anxiety in a group of FM patients and two control groups comprised of patients with RA or lumbar disc herniation. Pain severity was found to be directly proportional to changes on scales measuring melancholia and anxiety for all groups. However, when level of pain was controlled for, the FM group displayed significantly higher levels of depression and anxiety than the control groups.

With a homogeneous sample and utilization of more broad assessment measures

than previous researchers, Walker et al. (1997) also compared FM patients to RA patients and concluded that findings “suggest that the psychological distress and psychiatric disorders found in [both] patient group[s] are unlikely to be secondary to the rheumatological symptoms” (Walker et al., 1997). Though this caveat applies to both FM and RA groups, significant differences were identified between them regarding prevalence of the following psychiatric diagnoses: somatization disorder (70% vs. 3%); dysthymia (53% vs. 6%); lifetime depression (86% vs. 31%); panic disorder, both current (25% vs. 3%) and lifetime (47% vs. 12%); and agoraphobia (42% vs. 12%). Overall, 90% of their FM patient sample presented at least one lifetime psychiatric disorder compared to 49% of RA patients. Conflicting results from the investigations discussed above illustrate that research regarding the role of depression and other mood disturbances in the onset and maintenance of fibromyalgia remains inconclusive.

Stress and Coping

Individuals with fibromyalgia frequently report a stressful life history and exhibit an enhanced vulnerability to stress as well as a deficit in maintaining boundaries between positive affect and pain during stress. In an investigation using osteoarthritis (OA) patients as a control group, Davis, Zautra, & Reich (2001) noted that though both groups displayed an increase in negative emotions and perceived pain intensity during stress, only FM patients displayed a relationship between positive affect and pain. Specifically, a decrease in positive affect during times of stress was associated with an increase in perceived pain intensity for FM patients but not their OA counterparts. Further, investigators noted that stressors have prolonged effects on pain severity in FM individuals and also that an induction of a negative mood state prior to the presentation of a stressor exacerbates such stress-related pain. In the study, OA counterparts did not

display this same phenomenon and notably, it was only under these conditions (negative affect + stress) that FM and OA women significantly differed in report regarding level of pain experienced. Investigators interpreted results to suggest that liability to elevated levels of negative affect makes FM patients particularly susceptible to sustained pain increases that are related to stress (Davis et al., 2001). This seems to suggest a converting of negative affect to pain by FM patients, particularly when a stressor is added.

Individuals with fibromyalgia often exhibit maladaptive manners of coping and patterns of problematic thinking. When compared to their osteoarthritis counterparts, they are more likely to use avoidant coping strategies when in pain, such as resignation, passivity, and social withdrawal (Davis et al., 2001) even though utilization of emotional approach coping techniques have been found to be effective in decreasing levels of pain and depression for patients with chronic myofascial pain, including fibromyalgia (Smith, Lumley & Longo, 2002). Uveges et al. (1990) found that FM subjects displayed similar coping styles to their rheumatoid arthritis counterparts. However, differences were found between the two groups with regard to psychological status and life stress. Subjects with FM perceived greater stress and hassle in life and fared significantly worse on measures of somatization, anxiety, depression, hostility, psychosis, and paranoid ideation (Uveges et al., 1990). This suggests that even though FM and RA patients report similar styles, FM patients cope less effectively. In addition to negative perception and interpretation of stimuli, individuals with FM tend to employ catastrophic thinking more so than their RA counterparts (Hassett, Cone, Patella, & Sigal, 2000). Such catastrophic thinking has been linked with increases in pain. Specifically, “catastrophizing [and] associated pain-related fear are likely to cause a cascade of psychological and physical events, including hypervigilance, muscular reactivity, avoidance and guarding behaviors, and physical

disuse, which in turn are responsible for the maintenance of the pain problem” (Vlaeyen, de Jong, Sieben, & Crombez, 2002, p. 212). Hasset et al. (2000) noted that differences in severity of mood between FM and RA groups were found to be most evident in domains of cognition, indicating that catastrophizing and depressive self-statements more strongly associated with increased pain levels in FM patients than RA patients. This suggests that maladaptive cognitions and impaired coping skills influence the maintenance and severity of FM symptoms.

Trauma and Post-traumatic Stress Disorder (PTSD)

Consistent with high incidence of stressful events in FMS population, over half of all individuals with FM also meet criteria for PTSD or exhibit substantial PTSD symptoms (Shermann, Turk, & Okifugi, 2000). They have been reported more likely to have experienced stressful life events than individuals with other chronic pain or medical conditions, including events such as childhood abuse, victimization, relationship difficulties, and financial stressors. However, research regarding the relationship between fibromyalgia and trauma is both compelling and inconclusive. Many researchers report a higher incidence of traumatic history and Post-traumatic Stress Disorder (PTSD) in individuals with FM whereas others report no significant difference in PTSD prevalence between this group and their healthy counterparts. When compared to patients with other rheumatologic disorders, Boisset-Pioro, Esdaile, & Fitzcharles (1995) found that FM patients were more likely to report childhood sexual (37% vs. 22%) and physical (18% vs. 4%) abuse. Further, 17% of FM patients reported a history of both sexual and physical abuse (compared to only 4% of control subjects), and another 17% acknowledged sexual abuse during both childhood and adulthood. Similarly, Walker et al. (1997) identified a higher frequency (33% vs. 13%) of sexual assault in adulthood for FM patients when

compared to patients with Rheumatoid Arthritis (RA). Sherman et al. (2000) report that 56% of FM patients also meet criteria for a diagnosis of PTSD. Ciccone, Elliott, Chandler, Nayak, & Sangeetha (2005) also found PTSD to be more prevalent in a sample of FM patients than healthy controls. Compared to healthy controls, Taylor, Trotter, & Csuka (1995) found no evidence of increased history of sexual abuse in patients with FM but did identify a higher rate of fatigue, negative outcomes, and worse overall health in those who did report abuse. This implies that previously abused FM individuals do not cope as well with stress as FM individuals with no traumatic history. McBeth, Macfarlane, & Silman (2002) compared the incidence of childhood abuse in patients with chronic, widespread pain to patients who were pain free, finding an existing though non-significant difference between the groups (12% vs. 2%). Ciccone et al. (2005) could not find a significant difference between FM and control groups for overall incidence of childhood trauma. However, a high incidence of rape was present in the FM group. Overall, these findings support a link between history of trauma and/or stressful experiences and fibromyalgia.

Affect and Emotion Regulation

Without argument, negative affective states accompany most chronic pain conditions as a result of physical and psychological distress and lifestyle changes. However, little resiliency research explores capacity for positive affect in fibromyalgia patients. Zautra et al. (2005) explored whether a lack of positive emotional resources differentiate the FM population from other chronic pain conditions with observable pathology. The authors found no difference between FM and osteoarthritis (OA) patients in regard to negative affect, but identified significant dysregulation of positive affect in individuals with FM, particularly during times of stress. They propose that “deficits in

responsiveness to positive events may underlie the FM condition,” suggesting a lack of positive emotional resources available to patients with FM and an inability to activate such positive resources to down-regulate negative affective states (p. 153). In other words, FM patients may have difficulty experiencing positive emotions, especially when experiencing stress.

FM patients report emotional suppression (Brosschot & Aarsse, 2001) as well as difficulty identifying feelings and expressing anger (Sayar, Gulec, & Topbas, 2004). As a whole, fibromyalgia patients have been described as a group with significantly impaired emotion regulation (Bansevicius, Westgaard, & Stiles, 2001). Research focused on potential interventions is consistent with these findings. When exploring differences between passive coping, emotion-focused coping, and emotional approach coping (EAC) in a group of myofascial patients including individuals with fibromyalgia, Smith & Lumley (2002) found a directly proportional relationship between difficulty understanding and expressing emotions with exacerbations in pain and depression. They noted that understanding, processing, and expressing emotions (EAC) resulted in adaptive adjustment as well as decreases in pain and depression. Investigators interpreted findings to suggest that an effective way to cope with chronic pain is development of one’s emotional awareness as well as the voluntary, willful expression of those emotions.

Similarly, Broderick, Junghaenel, & Schwartz (2005) discovered that when FM patients participated in a written disclosure intervention (3 weekly sessions), during which they factually re-told the events of a past or current trauma with added emotional expression and cognitive evaluation, they reported a decrease in pain and fatigue as well as an improvement in psychological well-being at 4-month follow up. These improvements were not maintained at 10-month follow up, however. Gillis, Lumley,

Mosley-Williams, Leisen, & Roehrs (2006) reported that FM patients displayed improvement on various health indexes (global impact, sleep, and health care utilization) 3-months following written disclosure treatment, also suggesting that encouragement of expression and emotional awareness may benefit individuals struggling with chronic pain. Consistent with this, others have suggested that assisting patients in “broadening their emotional repertoire and increasing their capacity for positive emotion, especially during stressful times, may be particularly effective as a means of improving their condition” (Zautra et al., 2005, p. 154). These findings support an emotional regulation deficit in patients with fibromyalgia and suggest that a focus on improving this impairment as well as emotional expression may benefit the population.

Social Relationships

Patients with fibromyalgia exhibit significant interpersonal stress, impairment in responding adaptively to stress, and an overall dearth in social interaction and activity. When Davis et al. (2001) explored perceptions of social stress and support between groups of osteoarthritis (OA) and fibromyalgia patients, the latter group displayed an increased tendency to cope with pain episodes by withdrawing socially. Investigators interpreted results to suggest that "lower levels of perceived support may enhance the experience of social conflict among those with FM, leaving them with fewer resources to cope with pain and other stressors" (Davis et al., 2001, p. 224). In specific consideration of romantic relationships, Reich & Olmstead (2007) investigated how FM patients respond to control attempts by their partner and to what extent this affects relationship satisfaction. They discovered that controlling behavior has both positive and adverse effects, depending on the FM individual's level of pain and illness uncertainty at the time. Specifically, a positive effect (increased relationship satisfaction) was found when both

illness uncertainty and bodily pain were high, suggesting that FM patients are open to a partner's control attempts when they are under stress. Specifically, “control may appear to be socially supportive under the stress of pain and uncertainty, a provision of emotional support...[or] may offer the promise that the other is willing to help the patient achieve desirable goals in the face of uncertainty and pain” (Reich & Olmsted, 2007, p. 637). In contrast, when pain level was high for the FM individual but illness uncertainty was low, an adverse effect in relationship satisfaction was found. The authors note that this adverse response to a partner's control attempts is congruent with that of healthy controls. These findings may suggest a desire or need on behalf of the fibromyalgia patient for control. In light of all the research presented, if FM individuals have difficulty regulating emotions and balancing negative affect when stress level is high, appreciation in response to partner's control may be related to relief in the hope of obtaining some sense of homeostasis that they are unable to achieve on their own (and need others to help them with). In addition, the literature supports an association between interpersonal stress, social withdrawal, and fibromyalgia.

With so many compelling correlations in review of the literature above, it is easy to become enamored with and adopt one view and theory of the syndrome's etiology. However, most research reveals inconclusive evidence and no factor has been found to be the harbinger of FM onset or maintenance. Despite this, there are undeniable associations between depression, poor coping, stress, trauma, affective deficits, impaired emotion regulation, and FMS as illustrated by the research presented above. Further exploration into the similarities and differences between individuals diagnosed with FM in areas of mood disturbance, coping resources, psychological processing, emotional expression, and attachment may provide improved insight regarding the survival of these individuals.

Psychological Assessment and Chronic Pain

Historically, psychological assessment of chronic pain disorders has focused on pathology and the identification of a pain-prone personality, which some have viewed as “the prime expression of a muted, depressive state” (Blumer & Heilbronn, 1982, p. 381). Past assessment has also generally been cognitive rather than projective in nature and words of caution have been expressed with regard to measures that do not control for pain (such as the MMPI), resulting in potentially misleading scores on scales of depression, hysteria, and hypochondriasis (Goldenberg, 1989). The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) has been one of the measures most utilized in research investigating personality characteristics of individuals with chronic pain. Pincus, Callahan, Bradley, Vaughn, & Wolfe (1986) investigated pathological constellations on MMPI scales of Hypochondriasis (Hy), Depression (D), and Hysteria (Hs) as displayed by RA patients, and suggest that elevations on these scales manifest from the influence of chronic disease rather than psychological abnormality. “It is essential that research addresses how individual characteristics of patients and their social environments influence responses to impairment, development of disability, and differential responses to alternative treatment interventions” (Exner, 2003, p. 709). Information gleaned from valid and reliable projective measures may offer insight into the psychological structure and processing of individuals with fibromyalgia in a manner that has not yet been explored. The Rorschach Inkblot Method is one such unique measure. The following detailed discussion of the Rorschach provides a context for reviewing the use of this instrument in assessing chronic pain.

The Rorschach Inkblot Method (RIM)

The Rorschach provides a way to capture unique aspects of an individual because

it pulls from a broad range of psychological processes and experiences in a manner that no other psychological measurement does. Exner (2003) states that “the greatest utility of the Rorschach is when an understanding of a person, *as an individual* becomes important for the purpose of selecting treatment strategies or targets, or when that sort of information is important to other decisions concerning the individual” (p. 4). One reason the RIM findings contribute to this endeavor is based in the fact that they emphasize psychological structure and reflect the *processes* that generate the behaviors of an individual rather than just the behaviors (Exner, 2003). Weisberg and Keefe (1999) highlight that an individual's unique pattern of processes undoubtedly affects his or her perceptions of and responses to the presence of pain. Regarding extensive administration, scoring, and interpretation processes of the Rorschach, Exner (2003) comments, “If a picture of the individual, as a unique psychological entity, will contribute significantly to the well-being of that individual by assisting in the selection of a treatment plan or contributing to other important decisions...the test should be well worth the effort” (p. 5). It is precisely this snapshot of an individual's perceptions and processing that may contribute to a better understanding of fibromyalgia patients as “unique psychological entities.”

Psychometric properties. The validity and reliability of the Rorschach have been challenged since its inception. The measurement has been misunderstood, stereotyped, and criticized for being worthless and “not a valid test of anything” (Dawes, 1994, p. 146). However, researchers erudite in the methods of Rorschach assessment have counteracted such critiques with evidence of the projective measure's worth and claim that those who maintain the Rorschach as an unscientific measure have either not read the literature or failed to grasp its meaning (Weiner, 1996). Weiner (2001) highlights that

substantial stability has been shown for almost all regularly occurring Rorschach variables that relate to trait characteristics in adults. He specifies, “Most of these variables demonstrate retest correlations above 0.75, and some of these correlations (e.g., the Affective Ratio and the Egocentricity Index) approach 0.90” (p. 425). In contrast, a few variables are associated with low stability among adults (inanimate movement (*m*) and diffuse shading (*Y*)), but these are variables conceptualized in relation to situational stress and such instability is expected when considering state-related characteristics (Weiner, 2001). Results of meta-analyses by Atkinson (1986) and Parker, Hanson, & Hunsley (1988) highlight Rorschach validity as comparable to that of the MMPI-2. Specifically, the MMPI-2 and Rorschach were found to have similar psychometric properties in regard to convergent validity (.46 and .41, respectively), reliability (.84 and .86), and average stability (.74 and .85) (Parker et al, 1988). Taken together, these results support the Rorschach as a valid and reliable measure when used appropriately to explore hypotheses.

Rorschach Variables of Particular Interest

Special indices. Disturbances of mood, coping, hyper-arousal, perception, and suicidality are all observable in a well administered, scored, and interpreted Rorschach protocol and can provide invaluable information. The Depression Index (DEPI), Coping Deficit Index (CDI), Obsessive Style Index (OBS), Hyper-vigilance Index (HVI), Perceptual-Thinking Index (PTI), and the Suicide Constellation (S-CON) compose the six special indices in Exner’s Comprehensive System (2003) that are explored when a positive score (greater than 0) presents in the index. Like most Rorschach variables, interpretation of each special index varies greatly depending on the scores of other variables and indices in the record, and, therefore, one explanation for each index is

insufficient and inappropriate here. However, overall, these indices provide information regarding affective disruption (DEPI), social deficits (CDI), perfectionism and preoccupation with detail (OBS), hyper-alertness (HVI), mediational and ideational difficulties (PTI), and exaggerated involvement with self-examination (S-CON) (Exner, 2003).

Exner (2001) explored the records of 600 non-patient adults to identify normative data for all Rorschach variables. Of those records, 24 (4%) showed a score of 5 on the DEPI index and 4 (1%) showed a score of 6. Twenty-one records (4%) showed a score of 4 on the CDI index and 2 (0%) showed a score of 5. A positive PTI was seen in only 1 (0%) record with no records exceeding a score of 3 on the index. The OBS, HVI, and S-Con indices were positive in 8 (1%), 18 (3%), and 0 (0%) records, respectively. Positive index scores vary greatly among Rorschach protocols and this frequency data aids in identifying records that display deviations from the norm.

D-Score/Adjusted D Score. Capacity for stress tolerance is observable in a Rorschach record through D-Score (D) and Adjusted D Score (Adj D), the latter potentially being the single Rorschach index that most directly measures one's ability to maintain control under demand or stress (Exner, 2003). Whereas D incorporates all stress experienced by a subject, Adj D is a score *adjusted* from D by subtracting out variables that may be confounding an individual's illustrated level of stress tolerance. This adjusting and subtracting is done to eliminate situational stress and allow for exploration of a more typical, trait-like characteristic of an individual. In a sample of 600 non-patients, 87% exhibit Adj D values of 0 or greater and nearly 5% have Adj D values less than zero (Exner, 2003, p. 255). The Adj D score relates to control features more typical of an individual and in general, a positive Adj D signals high tolerance for stress whereas

a negative Adj D signals low tolerance. However, there are exceptions to this general finding, and influences upon this variable should be fully explored (Exner, 2003, p. 255).

Coping style. Three different coping styles are identified through the Rorschach: introversive, extratensive, and ambitent. To identify if an individual exhibits a particular coping style, the variable Erlebnistypus (EB) is explored. Using Exner's Comprehensive System (2003), EB is calculated as a relationship between movement and chromatic color responses (*SumM:Weighted Sum Color*). A difference of 2 or greater in this EB ratio illustrates a coping style (when the sum of variables in the EB ratio is less than 10). Specifically, a higher value on the left side of the ratio (*SumM*) indicates an introversive coping style whereas a higher value on the right side of the ratio (*WsumC*) indicates an extratensive coping style. When EA is greater than 10, the difference between the values must be greater than two to identify a coping style. If there is no significant difference in the values, the individual is considered ambitent, meaning he/she does not have one particular style of coping in response to stressful stimuli (Exner, 2003). Though introversive and extratensive approaches to coping are common among adults and potentially, equally effective if employed appropriately, they are very different styles psychologically. Introversives keep emotions aside, delay behaviors, and think things through before making decisions whereas extratensives merge emotions with thinking in decision making and are comfortable trying out various problem-solving approaches (Exner, 2003). In contrast to these distinct styles, ambitents display inconsistency and variation with regard to emotions in decision-making and problem-solving and are often less efficient than their consistent counterparts (Exner, 2003).

Form Quality. Inkblot features can be described by form, color, and shading. How a subject decides to respond when identifying form can be interpretively important. Form

responses are differentiated by quality (FQ) and are identified by three different values: the proportion of responses in which form use does not correspond with the blot features, representing a disregard or distortion of reality (X-%); the extent to which appropriate use of form features include common object definitions (X+%); and to the extent that responses include uncommon definitions (Xu%) (Exner, 2002, p.154). Exner (2003) highlights that Hermann Rorschach originally “postulated that the manner and quality by which form is applied in creating the response represents the person's ability to perceive things conventionally or realistically” (p. 385). Therefore, the ratio of X-%, X+%, and Xu% responses in a protocol gives some insight into how that individual perceives presented stimuli. Specifically, minus responses reflect “some personal aspect of the individual that causes the stimulus field to be disregarded and replaced by internal aspects of the person that become projected into the response...[representing] a disregard for, or distortion of, reality” (Exner, 2003, p. 372). This suggests that a high frequency of negative FQ responses in a record may indicate cognitive dysfunction. In contrast, positive FQ responses are indicative of common or conventional mediation decisions whereas unusual FQ responses are less common but still congruent with inkblot form features and suggestive of creativity or cautious verbalization of a positive FQ response (Exner, 2003).

Sum T. In a Rorschach protocol, a *T* coding indicates the use of texture in a subject's response to an inkblot. Both absences and elevations in *T* answers are interpretively important as texture usage has been associated with the “capacity to form attachments to other people and an inclination to anticipate and seek close, mutually supportive relationships with others” (Weiner, 1996, p. 211). At least one texture response is seen in 75%-80% of non-patient protocols and “most give *only* one” (Exner,

2003, p. 250). Given this, the sum of texture responses ($SumT$) can suggest detachment from others or dependency and exacerbated need for affection, depending on the number of T responses a subject provides. Specifically, individuals who do not give any texture responses present as guarded and distant in interpersonal contacts and quite cognizant of personal space whereas individuals who give more than one texture response may be lonely and/or have strong needs for closeness (Exner, 2003). Further, T responses can be elevated by a recent loss or history of emotional deprivation. (Exner, 2003). Elevated texture responses are seen in young adolescents (McFate & Orr, 1949) and children of restrictive mothers (Montalto, 1952). Kallstedt (1952) hypothesized that elevated texture responses of young adolescents compared to their older counterparts may be the result of increased social and sexual insecurities. Breecher (1956) explored the influence of childhood acceptance and rejection on texture responses and found that patients who had been maternally overprotected as children gave more texture responses than those who had been maternally rejected. Findings were interpreted to suggest that maternal rejection may result in a decreased need to be liked by others. Similarly, T -less ($SumT = 0$) records are more common in rejected children (compared to their overprotected counterparts) as well as depressed adults who didn't have a transitional object as a child (compared to those who did) (Exner, 1993).

Relevant Research: Rorschach and Chronic Pain

Within a large body of research regarding the validity, reliability, and utility of the Rorschach, some investigators have focused on exploring the ability of the measure to identify common factors within and/or between various groups of individuals. In particular, common factors have been identified among patients with chronic pain as well as differences between this population and healthy controls and patients with seemingly

similar co-morbid conditions.

Leavitt and Garron (1982) identified differences on Rorschach records between low back pain (LBP) patients with demonstrable organic disease compared to those with no demonstrable organic disease. The clinical psychologists who administered the Rorschach were blinded of the patient's assigned group ("with [or] without organic disease") and responses were scored for location, determinant, accuracy, and content (Leavitt & Garron, 1982, p. 19). Specifically, differences were seen in Rorschach variables of form quality and color, which are most generally associated with perceptual accuracy and emotional expression. The non-organic disease group presented responses more determined by contour than color in the inkblot and less accurate in perception, and these variables ($F\%$, $SumC$, and $F+\%$, respectively) were coded using the older scoring systems of Klopfer et al., (1954) and Beck et al. (1961). Regarding the F variables mentioned, $F\%$ refers to the percentage of responses determined by form (rather than characteristics of movement, shading, or color) whereas $F+\%$ is the percentage of these form responses that exhibit perceptual accuracy. In addition, $SumC$ is the sum of responses in which color is incorporated. Findings of high $F\%$, low $F+\%$, and low $SumC$ in this population were interpreted to suggest that "patients without demonstrable organic disease are relatively unaware of their feelings, get little pleasure out of life, suffer considerable tension, and have chronic somatic complaints" (Leavitt & Garron, 1982, p. 23). Therefore, the combination of a high percentage of responses determined by form features of an inkblot but unconventional in adherence to its contours and a low sum of responses incorporating color may suggest psychological disturbance and emotional suppression in individuals with pain of unknown etiology.

Previous research has shown differing characteristics of clinical pain when a

psychological, as opposed to physical, cause is present (Leavitt & Garron, 1979). Specifically, exaggeration and diffusion of pain has been hypothesized as indicative of pain with psychological origin. Therefore, to further explore associations with the atypical Rorschach variables above (*F%*, *F+%*, and *SumC*), Leavitt & Garron (1982) conducted an additional study in which the MMPI and the Low Back Pain Questionnaire (LBPQ) were given to the same pain patients. The authors found that an elevation in Rorschach *F%* was associated with elevated *Hs* and *Hy* scales (“conversion V”) on the MMPI as well as back pain factors II and IV on the LBPQ. Such elevations on the LBPQ have been found to be characteristic of individuals with pain of unknown etiology and psychological disturbance (Leavitt & Garron, 1979). The authors caution that the MMPI “conversion V” profiles seen in individuals with elevated *F%* are more likely a result of tension and constraint rather than hysteria but that “tense, emotionally constrained patients seem to focus their attention on somatic concerns...and on physical sensations” (Leavitt & Garron, 1982, p. 24). Overall, these findings support links between psychological disturbance, tension, and emotional suppression in pain patients with unknown underlying disease.

Similarly, Acklin & Bernat (1987) explored associations between pain patients, depressives, personality disorders, and non-patients. Investigators compared Rorschach records of these four groups, postulating that low back pain (LBP) patients would display profiles dissimilar to individuals with major depression and more similar to personality disordered individuals than to depressives or non-patients. Further, they hypothesized that pain patients would exhibit characteristics similar to alexithymic individuals. Alexithymia has been described as an incapacity for experiencing or expressing emotion, an impoverishment of fantasy and abstract thought, and has been suggested as a

predisposing factor in psychosomatic disorders (Acklin & Bernat, 1987). Results of the investigation confirmed all hypotheses. Specifically, LBP patients differed from the depressive group in areas of affect management ($FC:CF+C$), perceptual scanning (Zd score), degree of cognitive constriction (λ), and decreased incidence of positive scores on the depression index (DEPI). Whereas 2 LBP records showed a DEPI score of 4, 106 depressive records showed DEPI scores of 4 or 5. In addition, among these variables, pain patients significantly differed from personality disorder patients only on perceptual scanning style, suggesting that Rorschach records of pain patients are more similar to those of patients with personality disorder than major depression. Of all groups, LBP patients displayed the highest degree of cognitive constriction (low blends) and perceptual stereotypy (high λ) as well as the greatest incapacity for fantasy (low M), affective responsiveness (low $WsumC$), and adaptively integrated affect (low FC) (Acklin & Bernat, 1987). These findings imply deficits in the cognitive and affective resources of pain patients. The majority of LBP individuals also failed to display a consistent coping style (ambivalent), indicating potential vulnerability in coping with stress (Acklin & Bernat, 1987). Investigators interpreted results to suggest that “Rorschach findings shed light on the potential role of alexithymia in the pathogenesis of chronic low back pain” (Acklin & Bernat, 1987, p. 474). Taken together, these associations and conclusions support future research of individuals with chronic pain utilizing the Rorschach Inkblot Method, particularly with regard to the assessment of alexithymia.

In subsequent alexithymia research, Acklin & Alexander (1988) explored 4 groups of psychosomatic patients with the hypothesis that all groups (low back pain, gastrointestinal, dermatology, and headache) would exhibit elevated characteristics of alexithymia on the Rorschach when compared to non-patients. Generally, psychosomatic

patients provide a low number of total answers to the Rorschach cards, verbalize few responses incorporating movement and human content, and poorly formulate responses when color is used (Bash, 1986). Congruent with this, the Rorschach variables associated with alexithymia are sorted by functions of fantasy, affect, cognition-perception, and adaptive resources, and include the following: a low number of total responses (*R*), low *M* (human movement), low *WsumC* (restricted affect), low *FC* (poorly adapted affect), low blends (concrete cognition), low *EA* (ideational/affective deficits), and high lambda (perceptual stereotype) (Acklin & Alexander, 1988). In sum, this suggests that alexithymic individuals and psychosomatic patients exhibit very similar Rorschach records in regard to these variables. Acklin & Alexander (1988) found all psychosomatic subjects in their study to be highly distinguishable from non-patients on the seven Rorschach variables listed above, supporting the utility of the Rorschach in assessing alexithymia. The investigators interpreted findings as confirmation that psychosomatic patients as more alexithymic than non-patients.

Though there is a dearth in the literature regarding use of the Rorschach with fibromyalgia patients, research with other pain populations have resulted in interesting associations to Rorschach variables and provided questions for further exploration. In addition, findings have supported that the Rorschach is not only a valid and reliable projective assessment of psychological processing, but a manner of exploration into an individual that is unattainable via other measures.

Summary and Hypotheses

Pain syndromes of unknown etiology afflict and frustrate an overwhelming number of individuals, baffle physicians and clinicians of various disciplines, and cost patients as well as their families and employers staggering sums of money. It has been

suggested that “in the absence of a common physical cause, the common denominator of these functional somatic illnesses may be found in their association with psychiatric disorders, in neurobiological abnormalities, or in personality traits leading to maladaptive coping and abnormal illness behavior” (Manu, 2004, p.31). Specifically, the varying characteristics observed in individuals with fibromyalgia and presented in the literature review here suggest the presence of aberrations or deficits in areas of mood, resiliency to stress, affect, emotion regulation, coping, and social relationships. Though there is a dearth in the literature regarding use of the Rorschach with fibromyalgia patients, assessment of patients with different pain syndromes of unknown etiology has revealed associations to variables with interpretive importance. Specifically, Rorschach research with this population has revealed characteristics of cognitive constriction, emotional suppression, inconsistent coping, and impaired perceptual scanning. Cognitive and affective deficits have been identified due to displays of incapacity for fantasy (low *M*), affective responsiveness (low *WsumC*), and adaptively integrated affect (low *FC*). These findings are congruent with primary issues and characteristics under exploration in individuals with fibromyalgia. Investigating this population with a projective personality measure may reveal supporting and/or conflicting evidence in response to findings presented here but may also unveil more complicated psychological processing issues not previously identified. The purpose of this dissertation is to further explore these factors.

Expectations regarding the records of subjects assessed in this study relate to deviations from normative Rorschach data. It is hypothesized that the responses given by participants with fibromyalgia during Rorschach administration will differ from the descriptive statistics for non-patient adults published in Exner’s Comprehensive System (2003). The variables mentioned above (Special indices, *D Score*, *AdjD*, Coping style,

form quality, and *SumT*) are of primary focus due to their relevance to characteristics of fibromyalgia patients presented in the literature. Individual hypotheses are as follows:

Hypothesis 1: Fibromyalgia subjects will deviate from the normative data with negative scores on *Adjusted D Score*, indicating a vulnerability and low tolerance for stress.

Hypothesis 2: Subjects will display an elevated frequency of *X-%* form quality responses compared to the norm, indicating the possibility of perceptual and mediational disruption.

Hypothesis 3: Subjects will deviate from the norm in *SumT* scores in either direction ($SumT = 0$ or $SumT > 1$), either result suggesting the disturbance of needs for closeness and/or affection.

Hypothesis 4: Fibromyalgia subjects will predominantly display an ambitent coping style (rather than extratensive or introversive), displaying inconsistency in response to problem solving and subsequent vulnerability to stress.

Hypothesis 5: Though previous examination of low back pain patients on the Rorschach depression index (DEPI) illustrated a low incidence of positive response, this incidence is hypothesized to be greater for this fibromyalgia sample due to high co-morbidity of depression and fibromyalgia. The sample is expected to display a greater percentage of positive DEPI scores compared to the norm.

Hypothesis 6: Previous research regarding associations between pain of unknown etiology and alexithymia suggests that fibromyalgia patients may exhibit similar characteristics. Therefore, it is hypothesized that individuals in this sample will also display these Rorschach features consistent with alexithymia: low number of total responses, low *M*, low *WsumC*, low *FC*, low blends, low *EA*, and high lambda. Confirmation of these findings would support a link between fibromyalgia and alexithymia.

Overall, results in support of the presented hypotheses would be consistent with suggestions in the literature that depression, vulnerability to stress, poor coping, interpersonal distress, and impaired emotional regulation are associated with fibromyalgia syndrome.

METHOD

Participants

Individuals who volunteered for this study were recruited primarily by way of flyers posted in high-traffic community settings and word-of-mouth by other volunteers or practitioners working with the fibromyalgia population. Flyers posted were addressed to persons diagnosed with fibromyalgia and willing to participate in a dissertation study. Interested individuals contacted the examiner by phone or e-mail and, following a briefing on participation requirements and procedures, scheduled a time to meet the examiner at a confidential meeting room in the public library to complete the Rorschach inkblot test and answer 8 questionnaire items. Diagnostic status of individuals regarding fibromyalgia syndrome was determined by self-report. Additional demographics including age, relationship status, symptom onset, year of fibromyalgia diagnosis, level of pain at time of assessment, co-morbid medical/psychiatric diagnoses, psychotherapy and/or psychotropic medication history, and abuse history were determined by a self-report questionnaire delivered in interview format. Informed consent was obtained from all individuals prior to the assessment, and participants were given the opportunity to request a summary of the study results following completion.

Materials and Measures

The Rorschach

The Rorschach inkblot test was used as the primary measure in this research. The projective measure consists of 10 standard inkblots, individually presented to the

examinee in a designated order with the simple question “*What might this be?*” Following the initial response phase for all cards, the examiner assures that she sees exactly what the examinee saw by facilitating an inquiry phase, during which the examinee describes how she saw what she saw. Examinees respond to the inkblots utilizing a broad range of psychological operations and experiences that comprehensively, may be interpreted to yield invaluable and unique information about how the examinee functions in his or her world. Generally, Rorschach findings offer information about personality and the psychological functions that produce one's behavior. The test was administered, scored, and interpreted in adherence to the guidelines in Exner's Comprehensive System (4th edition).

Demographic Questionnaire

Participants completed a demographic questionnaire (found in Appendix A), presented in interview format by the examiner following administration of the Rorschach inkblot test. The questionnaire was developed by the examiner with intent to assess general demographics of the sample and to identify possible covariates for analysis. The 8-item questionnaire addressed age, marital status, year of fibromyalgia diagnosis, onset of pain symptoms, level of pain at time of assessment, past and current interventions, psychotherapy history, co-morbid medical and psychiatric diagnoses, and history of abuse or trauma.

Rorschach Interpretation Assistance Program: Version 5 (RIAP5)

The RIAP5 (2008) is an assistance program created by J. E. Exner, I. B. Weiner, and PAR staff, designed to aid clinicians in the scoring and interpretation of Rorschach results for respondents between 5 and 70 years of age. The examiner codes all responses and enters the scores into the RIAP5 computer software, which calculates indexes,

percentages, and ratios of certain variables to aid in comprehensively interpreting results. If a respondent's Rorschach protocol is invalid (less than 14 responses), yielding an invalid Structural Summary report, the RIAP5 still generates raw data and constellations without ratios, percentages, and derivations. The RIAP5 also generates both an Interpretive Report for the clinician as well as a simplified and individualized Client Report that can be presented to the examinee.

Procedure

Data collection required one meeting between the examiner and each individual participant, scheduled via phone or e-mail for a time and location convenient to both persons. Most often, this occurred in a confidential meeting room reserved in a branch of a county public library in Ohio, Kentucky, or Florida, depending on the subject's state of residence. Upon arrival for assessment, the examiner and participant sat side by side in two chairs with a table in front of them for the examiner's materials (a common set-up for Rorschach administration).

Following introductions, the examiner chatted briefly with the respondent, expressed gratitude for participation, and set an agenda for the meeting. This was done in an effort to foster a comfortable and safe environment to ease any excess anxiety on behalf of the subject and to increase the likelihood that he or she would offer a valid Rorschach protocol (14 or more responses to the inkblot series). The examiner reviewed the Informed Consent (presented in Appendix B) with the subject, at which time both persons signed the document, and the subject had the opportunity to request a summary of the study results be sent to her/him once the research was complete. During review of the Informed Consent, the examiner highlighted that one participant would be chosen at random at the end of data collection to win \$100 gift certificate for massage (or

intervention of choice, since a few patients in the sample expressed feeling pain when touched or massaged).

The examiner then explained the assessment purpose and procedure, appropriately clarifying any misconceptions and/or questions the participant had regarding the Rorschach inkblot test. If such a thorough clarification was unnecessary, a simple introduction following the question of whether the subject had either heard of or taken the Rorschach inkblot test before was sufficient. Generally, this initial explanation was as follows: *“The Rorschach is just a series of inkblots that I’ll show you, and I want you to tell me what they look like to you.”* All subsequent procedures followed administration guidelines presented by Exner in *The Rorschach: A Comprehensive System* (2003).

Following completion of the Response phase, the examiner introduced the Inquiry phase by stating:

“Now, we are going to go back through the cards again. It won’t take very long. I want to see the things that you said you saw and make sure I see them just like you do. We’ll do them one at a time. I’ll read what you said, and then I want you to show me where it is in the blot and tell me what there is there that makes it look like that to you. Is that clear? Let’s try the first one. Here you said...”

All responses were recorded verbatim by hand by the examiner and a Location Sheet was used to document the exact portion(s) of the blot used by the subject in developing each response.

Following completion of Rorschach administration, the examiner debriefed the respondent and asked about his or her experience of participating in the task. Then, the respondent was asked to self-report on the 8 different items composing the Demographic Questionnaire, delivered in interview format by the examiner. After all questionnaire

items were addressed, the examiner appropriately answered any additional questions the individual had about the test or the examiner's field of study and officially adjourned the meeting.

Data Collected

Data collected from each subject included responses to the Rorschach inkblot test and information gathered from the Demographic Questionnaire. All documents used during the course of the assessment (Response sheet, Location sheet, Demographic Questionnaire) were labeled by a participant number instead of by personal name to ensure confidentiality of participants. Once the Rorschach responses were coded and entered into the RIAP5 software to generate a Structural Summary, those summaries (in combination with normative Rorschach descriptive statistics) provided the principle data to be used in statistical analyses. History gathered from the Demographic Questionnaires was consulted for further analysis. All Rorschach responses were scored and reviewed prior to referencing information from the Demographic Questionnaires to avoid the influence of any bias when coding an individual's responses. Participant responses to the Rorschach inkblot test were coded by the examiner and subsequently scored and interpreted with the aid of the RIAP5 software. All administration, coding, and interpretation procedures were executed in accordance with the guidelines of Exner's Comprehensive System (2003).

Research Design and Data Analysis

The primary purpose of data analysis was to evaluate whether the study sample of fibromyalgia patients significantly deviated from the norm on any Rorschach variables. Further, sample scores on variables for which particular deviations are associated with alexithymia were examined to identify if fibromyalgia patients exhibit such deviations. In

addition, the presence of any between-group differences within the study sample (i.e., respondents who endorsed abuse history vs. those who did not) were explored. Variable means were calculated from the study sample using the Structural Summaries generated by the RIAP5 software. The normative data referenced for comparison to sample scores was derived from a sample of 600 non-patient adults, examined in a study published by Exner (2001). A correlational study was appropriate for this research, allowing for the exploration of relationships between variables without motive to interpret causation. For both evaluations described above, a *t* test was conducted to compare the values of continuous Rorschach variables. Additionally, categorical variables (Coping Style and Special Indices) were evaluated and compared to percentages presented in Exner's normative data.

One-sample *t*-tests were conducted to examine whether the structural summary scores of fibromyalgia patients differ from those of the non-patient population. Primary continuous variables in question (*SumT*, *D-score*, *Adjusted D Score*, all form quality, and all form percentage variables) were explored first, followed by variables for which deviations are associated with alexithymia (*M*, *WSumC*, *FC*, *blends*, *EA*, *Lambda*, and *R*). Finally, additional variables of interest (*S*, *SumY*, and the *Intellectualization Index*) were analyzed.

An independent-samples *t* test was conducted to examine between-group differences in the sample on any of the Rorschach variables mentioned above. Initially, several independent-samples *t* tests were planned using categories gathered from the Demographic Questionnaire as grouping variables. However, over the course of the study, only trauma history proved relevant for analysis. Therefore, one independent-samples *t* test was conducted to evaluate whether history of physical, verbal, or sexual

abuse resulted in significant Rorschach differences between fibromyalgia patients who had been abused and those who had not.

Additionally, the percentages of each Coping Style (extratensive, introversive, or ambitent) and positive Special Index scores (primarily the DEPI and CDI) found in the study sample were evaluated and compared to percentages presented in Exner's normative data. These differences are presented and evaluated below.

RESULTS

Fibromyalgia Patients Compared to the Norm

Participant Characteristics

The study sample consisted of 20 volunteers clinically diagnosed with fibromyalgia by a medical professional prior to participation in this study. All respondents were Caucasian with a mean age of 57 and a range of 39 to 73 years of age. Despite no gender exclusion criteria for participants, 19 were female and only 1 was male. This lack of male response to the study may best be explained by demographics of the fibromyalgia population itself, of which a very high percentage is female. Respondents had been suffering symptoms of fibromyalgia for a mean of 12 years and a range of 2.5 to 29 years. At time assessed, 12 respondents were married, 2 were engaged, 3 had a significant other, and 3 were divorced or legally separated. The 19 females were heterosexual whereas the one male participant was homosexual and living with his partner of 10 years.

Almost all respondents had at least one co-morbid medical diagnosis and reported conditions varied from high blood pressure to degenerative joint disease. Of the 20 participants, 10 reported a history of physical, verbal, or sexual abuse, and 3 individuals endorsed all 3 types of abuse. Additionally, 12 individuals reported experiencing a period of high stress shortly before fibromyalgia symptom onset. These stressful periods primarily included work stress, illness, bereavement, divorce, caretaking of others, and vehicular, recreational, or work-related accidents that resulted in physical injury and/or emotional stress due to life changes. Of those respondents who endorsed high stress,

many reported a combination of these stressors at the time of pain onset.

Primary variables of interest

One-sample *t* tests were conducted to examine whether the study sample differed from the norm on several Rorschach variables. The means, standard deviations, *t* values, and *p* values for comparisons of these primary variables of interest are presented in Table 1. Rorschach respondents with fibromyalgia deviated from the normative data on most form quality and form percentage variables, including FQx+, FQxo, FQx-, XA%, WDA%, X+%, X-%, and Xu%. Specifically, the sample displayed elevated scores on FQx-, X-%, and Xu% whereas sample means were significantly lower than the norm on the remaining form quality variables. Respondents did not differ from the norm on *D Score*, *AdjD*, *FQxu*, *Fqxnone*, or *SumT*. Therefore, hypotheses proposing negative *AdjD* scores and deviant *SumT* scores were not supported. However, results do support the hypothesis that fibromyalgia patients exhibit elevated X-% scores.

The EB and Lambda variables were explored in all protocols to evaluate whether a pervasive coping style was present. Because 5 of the participants gave less than 14 responses to the test (an invalid and un-interpretable set), ratios, percentages, and derivations (including EB and Lambda) were not calculated and therefore, coping style of these subjects could not be evaluated. Of the 15 interpretable protocols, however, 6 respondents were Ambitent, 3 were Introversive, and 2 were Extratensive. A distinct coping style could not be determined from the remaining 4 of the 15 valid protocols due to a low EA score (suggesting sparse EB data) or a high Lambda score (suggesting an avoidant style with regard to test approach and/or personality). Results partially support the hypothesis that fibromyalgia patients are predominantly Ambitent. However, because a coping style could not be interpreted or evaluated for 9 of the 20 participants, results are

inconclusive.

Table 1
Primary Variables of Interest: Means, Standard Deviations, and Significance

Variable	Sample (SD)	Norm (SD)	t	p
<i>D Score</i>	-.20 (1.21)	-.03 (3.77)	14	.60
<i>Adj D</i>	.13 (1.25)	.15 (.82)	14	.96
<i>FQx+</i>	.10 (.31)	.71 (.88)	19	<.01*
<i>FQxo</i>	9.0 (3.32)	16.44 (3.34)	19	<.01*
<i>FQxu</i>	3.85 (2.13)	3.49 (2.03)	19	.46
<i>FQx-</i>	3.45 (2.21)	1.56 (1.20)	19	<.01*
<i>FQxNone</i>	.20 (.41)	.11 (.37)	19	.34
<i>XA%</i>	.79 (.12)	.92 (.06)	14	<.01*
<i>WDA%</i>	.85 (.12)	.94 (.06)	14	<.01*
<i>X+%</i>	.56 (.13)	.77 (.09)	14	<.01*
<i>X-%</i>	.19 (.11)	.07 (.05)	14	<.01*
<i>Xu%</i>	.23 (.08)	.15 (.07)	14	<.01*
<i>SumT</i>	1.1 (.85)	.95 (.61)	19	.44

**Indicates significant difference between sample and norm means*

Of the 20 subjects in the sample, 6 exhibited a positive score on the depression index (DEPI). Of these 6, 2 displayed a score (DEPI=5) suggesting the potential for emotional disruption, and 1 displayed a score (DEPI=6) suggesting the presence of a significant affective problem. The remaining 3 subjects displayed a positive coping deficit index (CDI) score (CDI=4) in addition to a positive DEPI score (DEPI=5,

DEPI=6), suggesting the presence of an affective problem due to difficulty in social adjustment rather than a primary mood disorder. Therefore, 30% of total patients in this sample were positive on the DEPI. In the normative data of 600 non-patient adults, 5% had positive DEPI scores. Results support the hypothesis that fibromyalgia patients exhibit elevated DEPI scores compared to the norm. Additionally, 50% of the fibromyalgia sample displayed a positive CDI in comparison to only 4% of the normative data sample. No additional special index scores were positive within the study sample. Table 2 displays the sample and normative frequencies of distinct Coping Styles as well as Special Indices.

Table 2
Coping Style and Special Indices: Sample and Norm Frequencies

Variable	Sample	Normative Data
Coping Style	(n = 11)	(n = 600)
Ambitent	55%	19%
Extratensive	18%	10%
Introversive	27%	33%
Special Indices	(n = 20)	(n = 600)
DEPI = 5	10%	4%
DEPI = 6	5%	1%
DEPI = 7	0%	0%
CDI = 4	45%	4%
CDI = 5	5%	0%

Fibromyalgia and alexithymia

One-sample *t* tests were conducted to examine whether the study sample differed from the norm on a constellation of Rorschach variables associated with alexithymia. The means, standard deviations, *t* values, and *p* values for these comparisons are presented in

Table 3. Rorschach respondents with fibromyalgia deviated from the normative data on *WSumC*, *FC*, and *R*. Specifically, the sample means were significantly lower than the norm for all three variables. Respondents did not differ from the normative data on *M*, *blends*, *EA*, and *L* variables. Though the sample did deviate on 3 of 7 variables, results do not support the hypothesis that individuals with fibromyalgia exhibit a complete Rorschach constellation indicative of alexithymia.

Table 3
Fibromyalgia and Alexithymia: Means, Standard Deviations, and Significance

Variable	Sample (SD)	Norm (SD)	t	p
<i>M</i>	4.25 (2.24)	4.30 (1.95)	19	.92
<i>WsumC</i>	3.03 (2.07)	4.36 (1.78)	14	<.01*
<i>FC</i>	1.70 (1.65)	3.56 (1.88)	19	<.01*
<i>Blends</i>	4.45 (2.26)	5.15 (2.08)	19	.18
<i>EA</i>	7.57 (3.49)	8.66 (2.38)	14	.25
<i>L</i>	.71 (.80)	.60 (.31)	14	.61
<i>R</i>	16.60 (5.36)	22.32 (4.40)	19	<.01*
<i>P</i>	5.20 (1.61)	6.58 (1.39)	14	<.01*

*Indicates significant difference between sample and norm means

Additional variables explored

A one-sample *t* test was conducted on Intellectualization Index scores as well as variables of white space (*S*) and diffuse shading (*SumY*). Means, standard deviations, *t* values, and *p* values of these comparisons are presented in Table 4 below. Sample means deviated from the norm on *SumY* and the Intellectualization Index but were within normal

limits of the normative data on *S*. No hypotheses had been made regarding these variables but the sample deviations are of interest.

Table 4
Additional Variables of Interest: Means, Standard Deviations, and Significance

Variable	Sample (SD)	Norm (SD)	t	p
<i>S</i>	1.55 (1.28)	1.57 (1.28)	19	.95
<i>SumY</i>	1.60 (1.60)	.67 (.96)	14	<.05*
<i>Intellectualization Index</i>	4.07 (3.81)	1.57 (1.48)	14	<.05*

**Indicates significant difference between sample and norm means*

Between Group Differences

In addition to comparison of sample means to normative data, grouping differences within the sample were explored. Due to the small sample size and limited information gathered from subjects on the demographic questionnaire, history of trauma was the only grouping variable of particular interest. An independent-samples *t* test was conducted regarding trauma history to evaluate whether there was a significant difference in the mean scores between sample subjects who had been victims of abuse (physical, verbal, or sexual) and sample subjects who had not. There was no significant difference in scores of any Rorschach variables explored, however, differences between *S* scores approached significance ($p = .05$) for subjects who reported history of abuse ($M = 2.00$, $SD = 1.13$), and subjects who denied history of abuse ($M = .88$, $SD = 1.25$). Results suggest that fibromyalgia patients with an abuse history give a higher number of responses incorporating white space than their counterparts who deny victimization.

Future Research

Results of this study prompt questions and ideas for future examination.

Reliability of the Rorschach data reported above remains uncertain as well as whether the constellation can be generalized to the larger fibromyalgia population. Future researchers should endeavor a larger sample size and obtain inter-rater reliability with regard to administration and coding of protocols to ensure an accurate assessment of inkblot responses. Additionally, it is questionable what role the presence of co-morbid diagnoses played in the variations of each respondent's profile. It is difficult to gather a sample of patients solely diagnosed with fibromyalgia, because these individuals frequently carry multiple diagnoses, but the effort of obtaining such a sample might provide a purer understanding of the fibromyalgia personality. As mentioned, it is unclear whether the sample means in this study present an accurate illustration of the average fibromyalgia patient. The comprehensive interpretation of individual profiles in a sample subsequently compared and contrasted with each other (rather than means vs. norm) is a compelling idea for future research. Though this study was an informative "first step," such a method would provide a more complete understanding of each individual's personality prior to comparison, resulting not only in a richer basis for examination but a more accurate understanding of the personality similarities fibromyalgia patients share.

DISCUSSION

In this exploratory study, 20 subjects diagnosed with fibromyalgia syndrome were administered the Rorschach inkblot test. Assessments were conducted individually and confidentially by one examiner who coded all responses and compared the mean sample scores to normative data derived from the Rorschach protocols of 600 non-patient adults (Exner, 2001). Findings provide support for the general hypothesis that fibromyalgia patients are psychologically dissimilar to their healthy counterparts, as measured by the Rorschach. Individual variable deviations and overall Rorschach constellation of fibromyalgia respondents are discussed.

Atypical Characteristics

Given the literature on abnormal affective and perceptual characteristics of individuals with fibromyalgia and previous Rorschach research with non-organic pain patients, it was hypothesized that individuals with fibromyalgia would deviate from normative Rorschach data by exhibiting low stress tolerance, distortions of reality, an inconsistent coping style, disrupted needs of affect, and mood disturbance. Though the group did not display a deficiency or distinct vulnerability in control capacity or ability to tolerate stress, they did exemplify the remaining hypotheses and display additional abnormalities.

Fibromyalgia patients gave fewer elaborated (FQx+), fewer ordinary (FQxo), and more minus (FQx-) responses to Rorschach inkblots than the norm, subsequently presenting with elevated form percentage scores that suggest cognitive and perceptual distortions. They also predominantly displayed an ambivalent coping style, indicating

inconsistency in the manner in which they consider and use emotion when problem solving. Despite having resources available to tolerate stress, such inconsistent coping is ineffective and generates increased vulnerability to its effects. Sources referenced in the literature review section of this dissertation suggest atypical personality characteristics of individuals with fibromyalgia including issues of mood disruption, maladaptive coping, impaired cognition, abuse history, and emotional suppression and several proposed personality features are upheld in the Rorschach results of this study. These findings enhance understanding of previous research, confirming the presence of psychological deviations in the fibromyalgia population. Further, they provide some support for assertions that such aberrations pre-exist physical symptoms and possibly influence exacerbations of them.

Specifically, the study not only elaborates on the research of Uveges et al., (1990) and the finding that persons with fibromyalgia perceive greater stress and hassle in their lives but also on the research of Davis, Zautra, & Reich (2001), revealing potential reasons why the inducement of negative affect prior to presentation of a stressor subsequently results in elevations of perceived pain and comparatively prolonged effects on pain severity for these individuals. A liability for behavioral inconsistency in problem solving, misperception, and emotional suppression, as was identified by the Rorschach in this study, certainly affects one's perceived level of pain and ability to effectively cope with stressful stimuli, particularly when experiencing negative affect. Further, a propensity for depressed mood predisposes these individuals to experience precisely this phenomenon. Overall, findings suggest that individuals with fibromyalgia could potentially decrease perceived levels of pain if they learned more effective ways to respond to negative affect and stressful stimuli and consistently employed them,

including enhanced awareness, identification, and expression of emotion. Sample results for specific Rorschach variables are discussed below.

Though the group did not display a distinct trend with regard to needs of affection (*SumT*), the majority of respondents deviated from the norm at an individual level, indicating that fibromyalgia patients experience some disturbance of affective needs even if they don't display a distinct trend as a group. The fact that these individuals deviated in opposite directions from each other (*SumT*>1 vs. *SumT*=0) may have simply “cancelled out” a significant group deviation on the variable. Of the 15 valid protocols, 7 displayed an increased need for affection whereas 5 displayed guardedness and need for personal space. Only 3 were neutral (*SumT*=1). Recent emotional loss can influence deviations on this variable and it's possible such a phenomenon occurred in this sample, particularly since many subjects reported life losses and heightened stress at the time of symptom onset. Notably, those significantly heightened periods of stress were reported as at least 2 years prior to assessment by all respondents. However, the group did demonstrate remarkable situational stress (*SumY*), suggesting the presence of feelings influenced by a sense of helplessness. Apprehension, anxiety, and sadness can manifest in response to exacerbations of these feelings and individuals with fibromyalgia may struggle with such disruptions of mood.

Profiles of sample respondents are congruent with previous research regarding the co-morbidity of fibromyalgia and depression (DEPI). It is likely that the majority of fibromyalgia patients experience affective disturbance and episodes of depression. However, remembering that these individuals are conflicted on how to respond to and use their emotions, their distress may not be verbally expressed. Additionally, half the group exhibited a coping deficit (CDI), indicating that they struggle with effectively and

adaptively managing when under demand or stress. This is not indicative of insufficient coping resources but rather inefficient utilization of the resources available to these individuals. In other words, FMS patients have the potential ability to cope effectively if they learn positive ways to employ their resources.

One example of such maladaptive coping may be the denial of emotions. The fibromyalgia group displayed a significantly higher Intellectualization Index than the norm, suggesting an inclination to reduce the impact of emotional experiences by dealing with feelings on an ideational level rather than directly or realistically. Despite this group deviance, it is worth mentioning that the majority of valid protocols (10) showed Intellectualization Index scores with no interpretive meaning (score < 4). Therefore, whereas the sample collectively deviates from the norm on this index, intellectualization does not appear to be a distinct defense tactic for all fibromyalgia patients.

Lastly, though a low number of popular responses (P) can indicate a less conventional and/or more individualistic manner of responding to stimuli, the low P score in the sample may simply be a result of the overall low number of total answers (R) given by respondents. Reasonably, fewer popular answers are expected in protocols with fewer responses and it would be inappropriate to interpret further into the deviation of this current sample. However, speculation can be made about the low R . Influenced by intelligence, neurological impairment, and, most commonly, resistance, the low R in this sample is most likely produced by the latter. Exner asserts that protocols with 14, 15, or 16 responses are often marked by some situationally related resistance. Such defensiveness in response to ambiguous stimuli is consistent with the sample characteristics of helplessness, situational stress, and inconsistent coping observed in the Rorschach variables discussed above.

Alexithymia constellation

Research has shown that those individuals suffering non-organic pain exhibit characteristics similar to alexithymia (Acklin & Bernat, 1987; Acklin & Alexander, 1988), a general incapacity for experiencing or expressing emotion and an impoverishment of fantasy and abstract thought. Despite the fact that the fibromyalgia group displayed the Rorschach constellation associated with alexithymia (elevations and depressions on specific variables), not all deviations were significantly different from the norm. Fibromyalgia respondents did display significantly lower *WSumC*, *FC*, and overall number of responses, findings similar to that of Acklin & Bernat (1987) in their assessment of patients with non-organic low back pain. Distinct deviations on these variables indicate that fibromyalgia patients show low response productivity, restricted expression and poorly integrated affect. However, they do not exemplify full alexithymic characteristics due to unremarkable measures of concrete cognition (low blends), perceptual stereotypy (high lambda), and deficient ideational and affective assets (low *EA*).

Implications of the Overall Fibromyalgia Constellation

In comprehensive consideration of the individual variables and deviations discussed above, a more complete view of individuals struggling with fibromyalgia syndrome is revealed. Rorschach data shows that this group is generally interested in others to the same degree as most people, demonstrates good reality testing abilities, and exhibits an adaptive capacity to anticipate and establish intimate relationships. Despite this last normative quality, however, maintenance of these relationships often proves to be a greater challenge due to exaggerated needs for closeness or the tendency to keep others “at an arm’s length.” In fact, several factors influence mood and maladjustment for

these individuals.

The predominant Rorschach constellation of respondents suggests that persons with fibromyalgia lack a consistent and well-defined coping style, exhibit serious difficulty thinking logically and coherently, and are more likely than most people to demonstrate ineffective or maladaptive interpersonal behavior. Such impairments may result in chronic adjustment difficulties for this group. They indecisively (and so, ineffectively) vacillate between dealing with experiences in an expressive and ideational manner, rendering them unpredictable (for themselves as well as others) even when in similar situations. As mentioned, it is not necessarily that they lack the resources to cope in a consistent and purposeful manner but rather that they do not employ their available resources effectively. In some situations, they may intellectualize or deny their emotions but respond to them in another situation, demonstrating a very unbalanced relationship with internal sensations. They exhibit poorly integrated affect, restricted expression, and generally seem conflicted on exactly what to do with their emotions. In addition, these individuals appear less capable than most to arrive at reasonable conclusions regarding relationships between events or to maintain a coherent flow of associations in which ideas progress in an intelligible manner. They may inaccurately perceive the thoughts, feelings, and actions of others. Due to these misinterpretations and mistaken associations, they may fail to anticipate consequences of their actions and misconstrue boundaries of appropriate behavior. This faulty judgment is not only interpersonally maladaptive but can also impede adjustment.

Between-Group Differences: Trauma

Individuals in the fibromyalgia group most clearly differed on one demographic characteristic – whether they had been the victim of abuse or not. The protocols of these

two groups were similar save for one variable that only approached significance.

Accurate interpretation of the *S* score is dependent on the comprehensive examination of an individual respondent's protocol but the discrepancy may indicate that abused fibromyalgia individuals have a tendency to respond to white space on the Rorschach more frequently than their non-abused counterparts. This potential phenomenon in abuse victims makes clearer sense under the consideration that elevated *S* scores often imply the presence of oppositionality or anger.

Notably, in addition to the 10 subjects who endorsed abuse (and gave valid protocols) 2 more subjects (who gave invalid protocols and could not be used in the group comparison) also reported a history of abuse. It is worth highlighting that more than half of the individuals in the fibromyalgia sample (12 subjects) had been abused. It is also uncertain whether any of the remaining 8 subjects falsely denied abuse due to the uncomfortable nature of the issue combined with a lack of significant rapport with the examiner. It is worth considering that the impairments in affect integration, consistent coping, and interpersonal behavior discussed above may have been influenced or exacerbated by traumatic experience.

Summary

The nature of this study (examining sample variable means to normative means) allowed for comparison, consideration, and comment on the characteristics of individuals with fibromyalgia and yielded interesting results regarding descriptive statistics. However, because little can be interpreted by examining single Rorschach variables, it is difficult to suggest what exactly the average scores mean for the individuals in the sample or to assert that fibromyalgia patients display a similar pattern with regard to personality and psychological processing. Despite this limitation, the myriad of sample deviations

from the norm are of great interest, provide invaluable information, and present several ideas for subsequent research with the fibromyalgia population.

Overall, fibromyalgia respondents in this study exhibited perceptual and mediational distortions as well as deficiencies in coping, affect integration, and expression. The group displayed a trend for inconsistent coping in response to problem solving as well as a tendency to indirectly and unrealistically address feelings by dealing with them intellectually rather than emotionally. Consequences of situational stress are most likely to disrupt the feelings of these individuals, and the lack of purposeful coping in dealing with these emotions is inefficient and maladaptive. Though a deviation in stress tolerance was not found, it is interesting to consider that while these individuals neither lack available resources nor exhibit greater vulnerability to stress than most people, they ineffectively integrate and cope with emotional consequences in situations, rendering themselves victim to the by-product of their own misperceptions and distortions of the world around them.

Limitations

A major limitation of this study was a lack of inter-rater reliability with regard to coding the Rorschach responses of subjects. Only one examiner administered and scored all tests, leaving a wide margin for any biased coding and/or general human error in the overall experiment. Subsequently, bias resulting from this examiner's development and awareness of the hypotheses explored is of further consideration. Though the examiner strictly adhered to Exner's Comprehensive System for all procedures and exercised great caution when coding, this limitation cannot be ignored.

The modest sample size was another limitation. Though 20 subjects composed the original sample (and all 20 protocols could be used in the analysis of several individual

variables), 5 subjects gave an invalid protocol, each resulting in a Structural Summary devoid of all ratios and percentages of interest. For these variables, only the 15 valid, interpretable protocols could be used. Therefore, results may not accurately represent the larger fibromyalgia population.

Though sample means were successfully compared to normative means, fulfilling the purpose of this study, the inability to infer much about a person by individually examining single Rorschach variables limited the interpretations that could be made about the fibromyalgia respondents. A more in-depth experiment in which the protocols of fibromyalgia patients are fully explored individually and then compared to each other may be an interesting area for future research. Though the respondents in this sample did not respond similarly on all individual variables, it is curious whether the overall presentation each fibromyalgia patient's Rorschach profile illustrates a similar personality and pattern of interacting with the world.

REFERENCES

- Acklin, M. W. & Alexander, G. (1988). Alexithymia and somatization: a Rorschach study of four psychosomatic groups. *The Journal of Nervous & Mental Disease*, 176, 343-350.
- Acklin, M. W. & Bernat, E. (1987). Depression, alexithymia, and pain prone disorder: a rorschach study. *Journal Of Personality Assessment*, 51, 462-479.
- Ahles, T. A., Khan, S. A., Yunus, M. B., Spiegel, D. A., & Masi, A. T. (1991). Psychiatric status of patients with primary fibromyalgia, patients with rheumatoid arthritis, and subjects without pain: a blind comparison of DSM-III diagnoses. *The American Journal of Psychiatry*, 148, 1721-1726.
- Alfici, S., Sigal, M., & Landau, M. (1989). Primary fibromyalgia syndrome – a variant of depressive disorder? *Psychotherapy & Psychosomatics*, 51, 156-161.
- Atkinson, L. (1986). The comparative validities of the Rorschach and MMPI: A meta-analysis. *Canadian Psychology*, 27, 238-347.
- Bansevicius, D., Westgaard, R. H., & Stiles, T. (2001). EMG activity and pain development in fibromyalgia patients exposed to mental stress of long duration. *Scandinavian Journal of Rheumatology*, 30, 92-98.
- Bash, K. W. (1986). Psychosomatic diseases and the Rorschach test. *Journal of Personality Assessment*, 50, 350-357.
- Baumstark, K. E., & Buckelew, S. P. (1992). Fibromyalgia: Clinical signs, research findings, treatment implications, and future directions. *Annals of Behavioral Medicine*, 14, 282-291.
- Beck, S. J., Beck, A. G., Levitt, E. E., & Molish, H. B. (1961). *Rorschach's test. I: Basic Processes* (3rd ed.) New York: Grune & Stratton.
- Blumer, D., & Heilbronn, M. (1982). Chronic pain as a variant of depressive disease: The pain-prone disorder. *Journal of Nervous and Mental Disease*, 170, 381-406.
- Boisset-Pioro, M. H., Esdaile, J. M., & Fitzcharles, M. A. (1995). Sexual and physical abuse in women with fibromyalgia syndrome. *Arthritis & Rheumatism*, 38, 235-241.
- Breecher, S. (1956). The Rorschach reaction patterns of maternally overprotected and rejected schizophrenics. *Journal of Nervous and Mental Disorders*, 123, 41-52.

- Broderick, J. E., Junghaenel, D. U., & Schwartz, J. E. (2005). Written emotional expression produces health benefits in fibromyalgia patients. *Psychosomatic Medicine*, 67, 326-334.
- Brosschot, J. F. & Aarsse, H. R. (2001). Restricted emotional processing and somatic attribution in fibromyalgia. *International Journal of Psychiatry in Medicine*, 31, 127-146.
- Ciccone, D. S., Elliott, D. K., Chandler, H. K., Nayak, S., & Raphael, K. G. (2005). Sexual and physical abuse in women with fibromyalgia syndrome: a test of the trauma hypothesis. *Clinical Journal of Pain*, 21, 378-386.
- Cleare, A. (2004). Stress and fibromyalgia – what is the link? *Journal of Psychosomatic Research*, 57, 423-425.
- Croft, P., Schollum, J., & Silman, A. (1994). Population study of tender point counts and pain as evidence of fibromyalgia. *British Medical Journal*, 309, 696-701.
- Davis, M. C., Zautra, A. J., & Reich, J. W. (2001). Vulnerability to stress among women in chronic pain from fibromyalgia and osteoarthritis. *Annals of Behavioral Medicine*, 23, 215-226.
- Dawes, R. M. (1994). *House of cards: Psychology and psychotherapy built on myth*. New York.: Free Press.
- Exner, J. E. (1993). *The Rorschach: A comprehensive system: Vol. I. Basic foundations* (3rd ed). New York: Wiley.
- Exner, J. E. (2001). *A Rorschach Workbook for the Comprehensive System* (5th ed.). Asheville, NC: Rorschach Workshops.
- Exner, J. E. (2003). *The Rorschach: A Comprehensive System* (4th ed.). New Jersey: Wiley & Sons, Inc.
- Exner, J. E., Weiner, I. B., & PAR staff (2008). Rorschach Interpretation Assistance Program: Version 5 (RIAP5) [Computer software]. Lutz, FL: Psychological Assessment Resources.
- Ford, C. V. (1997). Somatization and fashionable diagnoses: illness as a way of life. *Scandinavian Journal of Work, Environment, & Health*, 23, 7-16.
- Gillis, M. E., Lumley, M. A., Mosley-Williams, A., Leisen, J. C., & Roehrs, T. (2006). The health effects of at-home written emotional disclosure in fibromyalgia: a randomized trial. *Annals of Behavioral Medicine*, 32, 135-146.
- Goldenberg, D. L. (1989). Psychiatric and psychological aspects of fibromyalgia syndrome. *Rheumatic Diseases Clinics of North America*, 15, 105-114.

- Hassett, A. L., Cone, J. D., Patella, S. J., & Sigal, L. H. (2000). The Role of Catastrophizing in the Pain and Depression of Women with Fibromyalgia Syndrome. *Arthritis & Rheumatism*, 43, 2493-2500.
- Hudson, J. I., Hudson, M. S., Pliner, L. F., Goldenberg, D. L., & Pope, H. G. (1985). Fibromyalgia and major affective disorder: a controlled phenomenology and family history study. *American Journal of Psychiatry*, 142, 441-446.
- Kallstedt, F. E. (1952). A Rorschach study of 66 adolescents. *Journal of Clinical Psychology*, 8, 129-132.
- Kirmayer, L. J., Robbins, J. M., & Kapusta, M. A. (1988). Somatization and depression in fibromyalgia syndrome. *The American Journal of Psychiatry*, 145, 950-954.
- Klopfer, B., Ainsworth, M. D., Klopfer, W. G., & Holt, R. R. (1954). *Developments in the Rorschach technique I*. New York: Harcourt, Brace & World.
- Krag, N. J., Norregaard, J., Larsen, J. K., & Danneskiold-Samsøe, B. (1994). A blinded, controlled evaluation of anxiety and depressive symptoms in patients with fibromyalgia, as measured by standardized psychometric interview scales. *ACTA Psychiatrica Scandinavica*, 89, 370-375.
- Leavitt, F. & Garron, D. C. (1979). Psychological disturbance and pain report differences in both organic and non-organic low back pain patients. *Pain*, 7, 187-195.
- Leavitt, F. & Garron, D. C. (1982). Rorschach and pain characteristics of patients with low back pain and "conversion V" MMPI profiles. *Journal of Personality Assessment*, 46, 18-25.
- Manu, P. (2004). *The Psychopathology of Functional Somatic Syndromes: Neurobiology and Illness Behavior in Chronic Fatigue Syndrome, Fibromyalgia, Gulf War Illness, Irritable Bowel, and Premenstrual Dysphoria*. New York: The Haworth Medical Press.
- McBeth, J., Macfarlane, G. J., & Silman, A. J. (2002). Does chronic pain predict future psychological distress? *Pain*, 96, 239-245.
- McFate, M. Q. & Orr, F. G. (1949). Through adolescence with the Rorschach. *Rorschach Research Exchange*, 13, 302-319.
- Montalto, F. D. (1952). Maternal behavior and child personality: A Rorschach study. *Journal of Projective Techniques*, 16, 151-178.
- Netter, P. & Hennig, J. (1998). The fibromyalgia syndrome as a manifestation of neuroticism? *Zeitschrift für Rheumatologie*, 57, 105-108.

- Nordahl, H. N., & Stiles, T. C., (2007). Personality styles in patients with fibromyalgia, major depression and healthy controls. *Annals of General Psychiatry*, 6, 9.
- Parker, K. C. H., Hanson, R. K., & Hunsley, J. (1988). MMPI, Rorschach, and WAIS: A meta-analytic comparison of reliability, stability, and validity. *Psychological Bulletin*, 103, 367-373.
- Pincus, T., Callahan, L. F., Bradley, L. A., Vaughn, W. K., & Wolfe, F. (1986). Elevated MMPI scores for hypochondriasis, depression, and hysteria in patients with rheumatoid arthritis reflect disease rather than psychological status. *Arthritis and Rheumatism*, 29, 1456-1466.
- Reich, J. W. & Olmsted, M. (2007). Partner's social control effects on relationship satisfaction in fibromyalgia patients: illness uncertainty and bodily pain as moderators. *Journal of Social and Clinical Psychology*, 26, 623-639.
- Robinson, R. L., Birnbaum, H. G., Morley, M. A., Sisitsky, T., Greenberg, P. E., Claxton, A. J. (2003). Economic cost and epidemiological characteristics of patients with fibromyalgia claims. *Journal of Rheumatology*, 30, 1318-1325.
- Sayar, K., Gulec, H., & Topbas, M. (2004). Alexithymia and anger in patients with fibromyalgia. *Clinical Rheumatology*, 23, 441-448.
- Schultz, M., Hernandez, N., & Hernandez, J. (2004). Help patients cope with fibromyalgia. *RN*, 67, 46-50.
- Sherman, J. J., Turk, D. C., & Okifugi, A. (2000). Prevalence and impact of posttraumatic stress disorder-like symptoms on patient with fibromyalgia syndrome. *The Clinical Journal of Pain*, 16, 127-134.
- Smith, J. A., Lumley, M. A., & Longo, D. J. (2002). Contrasting emotional approach coping with passive coping for chronic myofascial pain. *Annals of Behavioral Medicine*, 24, 326-335.
- Taylor, M. L., Trotter, D. R., & Csuka, M. E. (1995). The prevalence of sexual abuse in women with fibromyalgia. *Arthritis & Rheumatism*, 38, 229-234.
- Turk, D., & Sherman, J. J. (2002). Treatment of Patients with Fibromyalgia Syndrome. In D. C. Turk & R. J. Gatchel (Eds.), *Psychological approaches to pain management* (pp. 390-416). New York: The Guilford Press.
- Uveges, J. M., Parker, J. C., Smarr, K. L., McGowan, J. F., Lyon, M. G., Irvin, W. S., Meyer, A.A., Buckelew, S.P., Morgan, R.K., Delmonico, R. L. et al. (1990). Psychological symptoms in primary fibromyalgia syndrome: relationship to pain, life stress, and sleep disturbance. *Arthritis & Rheumatism*, 33, 1279-1283.

- Vlaeyen, J. W. S., de Jong, J., Sieben, J., & Crombez, G. (2002). Graded Exposure In Vivo for Pain-Related Fear. In D. C. Turk & R. J. Gatchel (Eds.), *Psychological approaches to pain management* (pp. 210-233). New York: The Guilford Press.
- Walker, E. A., Keegan, D., Gardner, G., Sullivan, M., Bernstein, D., & Katon, W. J. (1997). Psychosocial factors in fibromyalgia compared with rheumatoid arthritis: sexual, physical, and emotional abuse and neglect. *Psychosomatic Medicine*, 59, 572-577.
- Weiner, I. B. (1996). Some observations on the validity of the Rorschach Inkblot Method. *Psychological Assessment*, 8, 206-213.
- Weiner, I. B. (2001). Advancing the science of psychological assessment: The Rorschach Inkblot Method as exemplar. *Psychological Assessment*, 13, 423-432.
- Weisberg, J. N., & Keefe, F. J. (1999). Personality, individual differences, and psychopathology in chronic pain. In R. J. Gatchel & D. C. Turk (Eds.), *Psychosocial factors in pain: Critical perspectives* (pp. 56-73). New York: Guilford Press.
- Wolfe, F., Smythe, H. A., Yunus, M. B., Bennett, R. M., Bombardier, C., Goldenberg, D. et al. (1990). The American college of rheumatology 1990 criteria for the classification of fibromyalgia. Report of the multicenter criteria committee. *Arthritis & Rheumatism*, 33, 160-172.
- Wolfe, F., Ross, K., Anderson, J., Russell, I. J., & Hebert, L. (1995). The Prevalence and Characteristics of Fibromyalgia in the General Population. *Arthritis & Rheumatism*, 38, 19-28.
- Wolfe, F., Russell, I. J., Vipraio, G., Ross, K. & Anderson, J. (1997). Serotonin Levels, Pain Threshold, and Fibromyalgia Symptoms in the General Population. *Journal of Rheumatology*, 24, 555-559.
- Zautra, A. J., Fasman, R., Reich, J. W., Harakas, P., Johnson, L. M., Olmsted, M. E., & Davis, M. C. (2005). Fibromyalgia: evidence for deficits in positive affect regulation. *Psychosomatic Medicine*, 67, 147-155.

APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

Participant #:

Age:

Gender:

1. What is your current relationship status?
2. What year were you diagnosed with fibromyalgia syndrome?
3. How long before that did you start experiencing symptoms?
4. On a scale of 1-10 (ten being worst), what is the level of your pain right now?
5. What treatments (medications, pain programs, exercise, acupuncture, etc.) have you tried to alleviate your pain? Are you currently participating in a treatment program? Are you employing/relying on any particular interventions?
6. Have you ever participated in psychotherapy (with a therapist, psychologist, or psychiatrist)? When and for how long?
7. Do you have any other medical diagnoses? Psychiatric diagnoses?
8. Have you ever experienced any verbal, physical, or sexual abuse?

APPENDIX B

PACIFIC UNIVERSITY INFORMED CONSENT TO ACT AS RESEARCH PARTICIPANT

FIBROMYALGIA AND THE RORSCHACH INKBLOT TEST

Principle Investigator:
Alyssa M. Lieb, M.S., Psy.D. candidate
Pacific University
School of Professional Psychology

Dissertation Advisor:
James Lane, Ph.D.
Pacific University
School of Professional Psychology

1. Introduction and Background Information

This study is being conducted by Alyssa Lieb, M.S., doctoral student in Clinical Psychology at Pacific University. The purpose of this study is to learn more about the experience and perceptions of individuals diagnosed with fibromyalgia syndrome (FMS). We are inviting you to participate in this study because you have reported having a diagnosis of FMS, are currently experiencing its distressing symptoms, and may offer valuable information related to the development of more appropriate and effective treatment for FMS sufferers. Please read this form carefully and ask any questions you may have before agreeing to be in this study.

2. Study Location and Dates

Data collection for this study is expected to begin in September 2007 and to be completed by August 2008. Analysis and writing will continue for several months beyond this time period. Assessments will be administered in a confidential meeting room at the public library branch most convenient for the participant.

3. Procedures

You are being asked to participate in an administration of the Rorschach inkblot test. The researcher will start with a brief interview to gather demographic information and ask a few questions regarding personal history. Your identity will be kept confidential and your responses during the interview and to the Rorschach inkblots will be identified by a number instead of your name. Your responses (as well as those of your

fellow participants) will be explored and form the basis for a dissertation.

4. Participants and Exclusion

Any individuals over 18 years of age with a diagnosis of fibromyalgia syndrome who do not have any developmental disabilities, psychotic symptoms, or speech or visual impairments who are willing to participate will be included in this study.

5. Risks and Benefits

There are no known risks associated with your involvement in this interview and assessment. However, sometimes discussing personal experiences and participating in assessment can bring up upsetting feelings and cause some nervousness. Possible benefits include making an invaluable contribution to the greater understanding of individuals with fibromyalgia syndrome.

6. Alternatives Advantageous to Participants

Not applicable.

7. Participant Payment

Not applicable.

8. Promise of Privacy

The records of this study will be kept private. Assigned numbers (e.g. Participant 1) rather than names will be used on the interview form and Rorschach responses and will be used to refer to any quoted material in the written dissertation. Only the principal investigator will have access to full names of participants and to the interview and Rorschach responses, which will be kept either with the principal investigator or in a locked storage area at all times.

9. Voluntary Nature of the Study

Your decision regarding whether or not you participate will neither affect your relationship with your medical provider nor affect your current or future relations with Pacific University. During your participation in this project, you are not a Pacific University clinic patient or client, nor will you be receiving mental health or medical care for fibromyalgia as a result of your participation in this study. If you are injured during your participation in this study and it is not the fault of Pacific University, the researchers, or any organization associated with experiment, you should not expect to receive compensation or medical care from Pacific University, the researchers, or any organization associated with the study. If you decide to participate, you are free to not answer any question or to withdraw at any time without prejudice or negative consequences. If you choose to withdraw early from the study, you may keep the strach-

off lottery ticket and will remain eligible to win the gift certificate when data collection for the study is completed.

10. Compensation and Medical Care

You will be awarded one scratch-off lottery ticket at time of assessment and will automatically have the chance to win \$100 gift certificate at the end of the study. The winner of the gift certificate will be drawn from a pile of participant numbers when data collection is complete. Medical care not applicable.

11. Contacts and Questions

The researcher will be happy to answer any questions you may have at any time during the course of the study. The researcher can be reached at (513) 652.8660 or Lieb.psyd@gmail.com. If you are not satisfied with the answers you receive, please call Pacific University's Institutional Review Board, at (503) 352-2215 to discuss your questions or concerns further. All concerns and questions will be kept in confidence.

12. Statement of Consent

I am 18 years of age or older and have read and understand the above information. All my questions have been answered, and I agree to participate in the study. I have been given a copy of this form to keep for my records.

Participant's Signature	Date
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Participant contact information:

Street address: _____

Telephone: _____

Email : _____

This contact information is required in case any issues arise with the study and participants need to be notified and/or to provide participants with the results of the study if they wish.

Investigator's Signature	Date
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